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General Articles

SOME NATIVE METHODS USED IN CATTLE HUSBANDRY IN BAROTSELAND

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These short notes are in no way meant to give an extensive or detailed description of the methods which the Marozi use in their handling of cattle. The term Marozi is used here for the people living in the Great Zambesi Valley situated in the north-west part of Northern Rhodesia. These natives have been, and are still, great cattle owners and have a profound though primitive knowledge of cattle husbandry.

The cautery is extensively used by the natives. A very common method is to heat one of their fish spears and cauterize with this. Sometimes the cauterized area is rubbed or anointed with a native "medicine."

Figure A shows a beast with a scar around its eye; this is done as a cure for or even as a preventive of the attacks of ophthalmia which seasonally often affect many cattle in Central Africa. This method would be explained, if at all, as based on the principle of counter-irritation; in fact, there are people who have treated and do still treat this complaint by injecting under the eye some iodine; so after all, although the Marozi method may be crude, I doubt if it is any more painful than an injection of iodine solution near the eye.

On the other hand, there can be no explanation of the method used for curing diarrhœa shown in Figure B. This calf has been cauterized

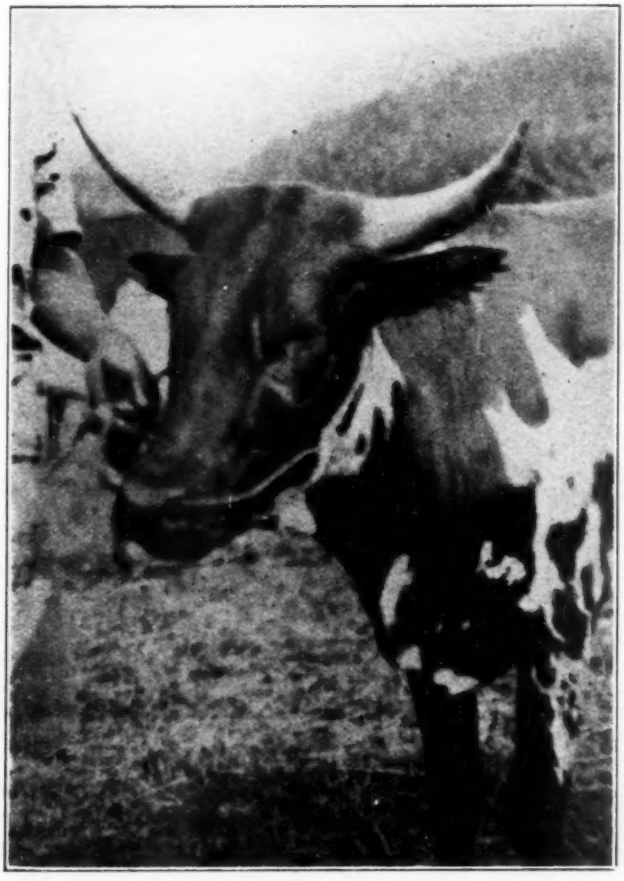

FIG. A.

FIG. B.

across its buttocks as a cure for diarrhœa! In fact, the owner of this beast informed the author that it stopped the calf straining and hence reduced the frequency of defæcation. One can quite believe that an animal thus cauterized would " think twice " before straining.

There were noted many cattle having often a circular and sometimes other design " branded " on their hips. This is a common treatment for lameness in the hind limb ; in fact, this method was seen used on cattle lame as a sequel to secondary infection following foot-and-mouth disease. Doubtless this " firing " is in some cases beneficial where the cause of the lameness lies somewhere near the seat chosen for cautery. Such a mark is visible in Figure C.

It will have been noted that the beast shown in Figure A has a rope through its nose. This is a common method of restraint used by natives.

To prevent a calf stealing milk from cows other than its mother the natives often peel off a large area of skin from the face of the robber calf. As milk stealing usually takes place from behind the cow whilst she is grazing, a calf treated as shown in Figure D must knock its raw face against the moving cow. This deters a calf from drinking unless the cow is stationary. This method is often used also to wean large calves, as they are so tall that in suckling they knock their raw face against the side of the cow. At least, these are the explanations which the natives gave for this barbaric method of treating calves.

Figure D shows a calf so treated. The skin is scraped off and left attached by its lower edge. This, on healing, often gives a pendulous bag of skin which is frequently found on native cattle. In some cases the irritation is kept up by rubbing ashes into the wound and cornification sets in resulting in a growth as shown in Figure E. These rhinoceros-like horns are considered quite decorative.

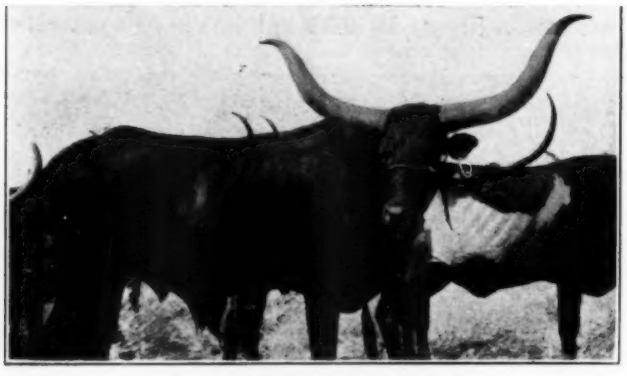

Fig. C.

Fig. D.

Fig. E.

It is not in any way suggested that these methods are practised only by the Marozi, for some of them have been seen in cattle belonging to other tribes, but these notes have been written to describe a few customs that have been actually seen in Barotseland.

THE CLYDESDALE HORSE

WILLIAM MEIKLEM
Bennock Park, Kirkcaldy

Like that of most of the breeds of live stock indigenous to Great Britain, the history of the Clydesdale breed of horses is somewhat obscure. There is, however, no doubt that the breed was evolved in the Upper Ward of Lanarkshire—the district from which it takes its name—Clydesdale. The breed may be said to be contemporary with the industrial development of Scotland. With the opening up of the coal mines, the development of the iron industry and the improvement of roads, some form of haulage had to be substituted for carriage on the backs of horses and ponies. It was to meet this need that the breed was evolved. There is no clear evidence to show how the improvement was effected, but from the scant writings of the period there is some evidence that Flemish stallions imported by a former Duke of Hamilton played an important part in grading up the native horses to meet the needs of the times.

Dunmore Supreme (21753).
James Johnston, Dunmore Home Farm, Falkirk.

The district around the Scottish industrial belt acquired a reputation for its breed of horses and the horse fairs at Lanark and Rutherglen particularly were famous. From there each year large numbers of young Clydesdales were exported all over the British Isles and much further afield. The popularity that the breed enjoyed in those days has never been lost. The Scot has all along been famed as a rover and just as he has taken with him his "Mountain Dew" so, too, has he taken his Clydesdale horses and his native cattle, and to-day the Clydesdale is found in almost all the dominions and in many foreign lands. The Clydesdale, in addition to maintaining its popularity in Scotland and in a good part of England, is also the draught horse of Australia and New Zealand; while in Canada and the United States of America, it is also a general favourite.

The Clydesdale breed may be said to be moulded on the lines of the thoroughbred. When viewed broadside, there are the beautiful head and neck with a lively eye and a sensitive nostril, the proudly-arched neck and oblique shoulder only comparable with that of the thoroughbred. The barrel is symmetrical, the top and underlines are level, the ribs well sprung and the quarters nicely rounded. In the limbs there is grace, muscular development and a breadth and quality of bone that is unrivalled; while the feet are big and open, the pastern joints nicely sloped and the legs well protected with a covering of hair that is of the fineness of spun silk. The set of the limbs, the size of the foot and the quality of the bone are features to which outstanding attention has been paid and in some measure account for the breed's longevity and also for the progress that has been made in the elimination of such troubles as grease, sidebone and ringbone. In the case of work horses the height generally aimed at is around 17 to 17·2 hands and a weight of 18 cwt. It is, of course, quite usual to get mature animals up to 18 hands and scaling over a ton.

In action, both walking and trotting, the Clydesdale is indeed active. There is never any shuffling along, each foot being lifted cleanly off the ground with the knees in consequence well bent and the hocks nicely flexed. There must be no openness at the knees and at the same time there must be no suspicion of knocking. When viewed from behind, the legs should be kept well together and the points of the hocks should point inward rather than outward; the thighs should come well down to the hocks and from there to the pastern the leg should be straight, anything in the nature of sickle hocks being a distinct fault.

So far as colour is concerned, the general preference is for bay or brown with legs white to the knees and hocks; blacks with white legs are also popular. Colour, however, does not matter, the only objection being chestnut.

With the depression of the post-war period Clydesdales, in common with all other breeds, suffered to a considerable extent. The lost ground, however, is gradually being recovered and breeding is again general; but there is still a distinct scarcity of good, big weighty horses, and with a gradual reversal in favour of the horse for transport purposes, prices are now remunerative and likely to remain so for some time to come. In regard to prices, the Clydesdale breed holds the record for draught horses, the stallion Baron of Buchlyvie having been sold by public auction at £9,500 and others have sold up to 5,000 guineas; the record price for females is 1,850 guineas. At the recent sales at Lanark this year the overhead average for work geldings was £51 and the highest price £100.

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Some Famous Clydesdale Stallions

Addressing the assembly on the occasion of the prize-giving ceremony held subsequent to the Kilpatrick Foal Show, Mr. Alex. Murdoch, C.A., ex-chairman of directors of the Highland and Agricultural Society, gave an interesting address on the evolution of the Clydesdale.

Mr. Murdoch said it was something like 40 years since the president of the Clydesdale Horse Society, the Earl of Cawdor, gifted two cups to be competed for annually for the best Clydesdale male and the best Clydesdale female. During that period there had been 41 competitions for the male Clydesdale and 42 for the female. Since 1892, under varying conditions, the cups had been won outright on several occasions. When they analysed those winners they found that horses with the Prince of Wales strain on the paternal side had won the Cawdor Cup 19 times, and of the Darnley strain 23 times. On the other hand, there had been twelve mares of the Prince of Wales strain that had won the Cawdor Cup for females, and 27 of the Darnley strain.

There were other horses that had had a great influence on the breed that were not Cawdor Cup winners, and he referred to one in particular that was never successful, Baron's Pride. He was only shown once, as a foal at the Highland Show in 1894, when he won the championship, but he was never shown again. Mr. Murdoch said he remembered being at that show, and if ever a horse was well criticised by all the rank and file of exhibitors it was Baron's Pride. They said he should never have won in his class, but history rather proved that on that occasion the judges were right and the public were wrong, because later on he proved to be a most impressive sire and left a great impression on the Clydesdale breed of horses.

He also referred specially to the sire of some of the female winners, Prince of Albion, which won at the Glasgow Highland Show as a two-year-old in 1888. He was sold that day to the late Sir John Gilmour, at what was then a record price for a Clydesdale stallion, 3,000 guineas. One of the most famous horses that the breed had ever produced was Dunure Footprint. The sire was Baron Buchlyvie and realised the enormous figure at a sale of £9,000.

MY INTERNATIONAL VETERINARY CONGRESS TOUR

Vety. Lieut.-Colonel GRAHAM REES-MOGG, O.B.E., F.R.C.V.S.

Arriving at New York on the evening of August 9th, after a period of voyage—during which I had hoped to have been able to read the papers on the way out, but they were not ready—I went straight to the Waldorf Astoria Hotel, which was a most magnificent building, 44 stories high, and with accommodation for two thousand guests.

Thanks to the kindness of my old friend of student days, Leonard Balls, who took me in a car which had been placed at his disposal, I spent the whole of Saturday, August 11th, in motoring through places in New York, and then over to Long Island, covering about 180 miles in all, and being fortunate in having a well-educated chauffeur, who pointed out features of interest.

On the following day, Sunday, I was glad to secure, from the office of the Secretary to Congress, the résumés of the papers to be presented, spending the whole day reading these précis—which, in my own opinion, were far too short—and in sorting out the papers. The hotel was now filling up with veterinary surgeons from all over the world; in all, there were about 1,800 present, from approximately 75 different countries.

With the big programme of papers to be read, it was necessary to pick out the subjects in which I was especially interested, and to arrange to attend that session.

On the 13th, I was present at the opening session in a huge hall of the hotel. The Under-Secretary for Agriculture gave us an address of welcome and the delegates from each country said a few words.

In the afternoon, I attended a paper on mastitis. As my own herd had suffered severely from this disease in the past, I had hoped to learn something, but I was disappointed, as all the three reporters spoke from a bacteriological point of view, and the discussion which followed did not teach me anything as regards prevention and cure.

The evening reception proved an impressive and enjoyable function.

On the 14th, Dr. W. L. Williams, Professor of Obstetrics and Research at Cornell University (the introducer of the roaring operation into England 20 years ago) read a carefully prepared paper on the diseases of young animals, and was followed by two professors from Germany and Czechoslovakia, but unfortunately there were no interpreters present.

In the evening, I went to see Woolworth's Buildings, full of beautiful marble, and to the Radio City, which is a most beautiful building, and holds 6,000 people.

At the morning session of Wednesday, August 15th, Dr. Watson, of Ottawa, read a paper on tuberculosis. He has tried the B.C.G. vaccine, and has found it of no value. He kindly showed me afterwards some photographs of the organs taken, exhibiting tuberculous lesions from animals which had been inoculated with the vaccine. As my own herd of pedigree Friesians have been inoculated for ten years, I was naturally very much interested, but rather disheartened.

In the afternoon, Dr. Hall, of the Bureau of Animal Industry, Washington, spoke for an hour on worm diseases. He was brilliant, and showed most excellent slides and diagrams demonstrating methods of prevention and cure. This was, in my opinion, the best paper of the whole Congress and as Mr. Jackson Young of Newcastle said to me, "It was well worth coming all the way to New York, to hear that paper alone." Dr. Hall used military terms and methods in his line of attack. I heard afterwards from an English veterinary surgeon, that Dr. Hall was a very good debater, and was writing a book on the subject. With the exception of a brief reference to bots, he never mentioned worms in the horse. Dr. Cameron, of McGill University, also spoke very well on the subject.

In the evening, I went up the Empire State Building, which is 102 stories high, and had a wonderful view of the surrounding country.

On the following morning, Professor Bang (son of the discoverer of the bacillus of contagious abortion) read a long paper on the disease, but unfortunately, I was not able to hear what he said. This was most unfortunate, as it is a subject in which I am especially interested. I am looking forward to reading his paper when it is published.

The afternoon was rendered noteworthy by the presentation, by Dr. Hart, of a most excellent paper on "Deficiency Diseases." This subject has interested me greatly, as recently a number of my own pigs had suffered from a disease, the chief symptom of which was paralysis of the hind limbs. I had a long talk with him afterwards, and he told me that it was due to a deficiency of chalk, and gave me a lot of literature on the subject.

The Banquet at night was a memorable experience, although, owing to the mistaken kindness of someone, I found that I had been put at a table where all the others were English. This was unfortunate, as it prevented my meeting and talking to people from other parts of the world. There was an excellent concert during and after the dinner, which was greatly appreciated by everyone.

On August 17th, I heard a very good paper on "Recent Progress in Veterinary Surgery," by Dr. Guard, who showed some excellent slides (those of X-ray being especially fine): carcinoma, adeno-carcinoma) before and after treatment with radium), sarcoma, cancer of larynx and bladder and prostate, stone in the pelvis of kidney and bladder, fracture of vertebra, stricture of œsophagus, dilatation of stomach and œsophagus, intussusception of jejunum, diaphragmatic hernia, pericarditis and pedal diseases, etc., etc.

In the afternoon, we motored out 40 miles to see the Walker Gordon Dairy Farm, and saw the remarkable milking machine (Rotolactor) the description of which by Professor Wooldridge appeared in your issue of December 29th.

On the way back, we visited the Rockefeller Institute, and the University at Princetown.

Instead of leaving by the night train with the rest of the party for Ithaca (as Dr. Williams had told me that the scenery was lovely, and that it was a great pity not to see it), Mr. and Mrs. Balls and I decided to go by day, so we left New York at 10.30 a.m. We were well rewarded, arriving at 7 p.m., after a very comfortable journey in a parlour car, which had armchairs, and from which a good view could be obtained.

I had been given an introduction to the Principal, and Dr. Savage, one of the Staff, came to see me at 9 p.m. He offered to take me to see a private farm, just typical of a farm in the New York area, at 9 o'clock next morning. This farm, consisted of 300 acres, and was the property of the farmer. It was in many respects similar to a farm in England, but as is usual in America, there was a lot of maize grown, which is cut green and given to the cows, and the rest put into a silo and made into silage. The herd consisted of Holsteins and Guernseys. The farmer had recently bought a very good Holstein bull from a well-known herd. They take a lot of trouble and care in finding out about the bull's dam and sire.

He showed us his excellent cooling apparatus, and also a refrigerator and motor tractor, telling us that he retailed his milk in the district. The place swarmed with flies due to the moist maize-silage, and there was a fly-proof wire netting all over the windows and doors.

At 11 a.m. we were due at the Agricultural Department of the Cornell University. As our time was limited, I decided that I would only be able to see the cattle and horses, and could not, therefore, go over the laboratories and buildings. I saw some exceptionally fine Holstein and Jersey cattle which would hold their own in any show ring in England. I was told that before the slump, bulls imported direct from Jersey, made up to £12,000. We then went on to see the mixed dairy herd of 250 cows, and to lunch at the University.

There was a hall devoted entirely to (1) excellent pathological specimens; (2) an anatomical model of a hen, showing her digestive and generative system; (3) an excellent plan of a portion of a farm showing how parasitic diseases are spread, and also (4) various other diagrams dealing with animal husbandry, which seems to play a much more important part in America and Canada than at home.

The buildings there are very fine, and teaching of every sort and kind goes on there, including hotel management. All through my tour in America and Canada, I was impressed by the excellent way in which the hotels were run.

In the afternoon, Dr. Savage kindly took us for a drive through a very pretty part, and gave us tea. Afterwards we left for Niagara, arriving there at 10 p.m., and were taken to see the Falls, which were all lit up by electricity. It was a wonderful sight.

We went in a car, next morning, to view the Falls by day, putting on oilskins, and going into a cave under the Falls. On our way home we saw the Burning Springs, as described in your journal by Mr. Balls. In the afternoon, I went to see the Whole Wheat Biscuit Factory, which was very interesting.

We left at 4 p.m. for Buffalo, where we saw many huge granaries, and then travelled by steamer to Detroit, dancing on board and having a very comfortable journey. Arriving at Detroit at 9 a.m. (August 21st), we were taken by charabanc to Mr. Ford's village, and were all met at the entrance by old-fashioned carriages and pairs of horses, and driven round the village.

I am indebted to Hofrat Dr. Franz Gerlack, of Vienna, for so kindly sending me the accompanying photograph (reproduced overleaf) of the carriage I was in.

We saw a car being put together in the factory, completed and driven off in 45 minutes from start to finish.

At 4 p.m., departure was made for Chicago, where we arrived at 10 p.m.

All the following morning was spent in going

round the stockyards and meat-packing factories.

In the evening I went to see the Exhibition. It was a very fine show, and one had to drive round in specially constructed motor conveyances. The fireworks were the best I have ever seen. The Horticultural Hall was especially good, and some of the plants and bulbs were of great value.

On the 23rd, I was taken for a drive round the town in the morning; and in the afternoon, round the Shore. In the evening I returned to the Exhibition, which I visited again next day, spend- two or three hours in the Hall of Science, which is a most interesting place. Burroughs Wellcome had a most excellent exhibit, including portraits of all the leading men in the Medical Profession of Ancient History. One exhibit comprised three skeletons of babies, cut longitudinally at different thicknesses of the body.

We left at 7 p.m. for Guelph and arrived at 7 a.m. Professor McGilvray, Principal of the Ontario Veterinary College, met us, and introduced us to Dr. Christie, Principal of the Agricultural College, and the staff and their wives. They kindly gave us a very good breakfast, showed us over the Veterinary College, and took us round the cattle—chiefly British Friesians (Holsteins) and Guernseys—and pigs. There were some very heavy milkers.

Dr. Raithby, Assistant Professor of Animal Husbandry, kindly stayed on and showed some of the milk records and those of butter fat content. Dr. Raithby agreed with me that there was no accounting for the fact that the butter fat in some cows varied so much, and he showed me the chart of British Friesian tests, which indicated that in the same cow the butter fat varied from 1·7 to 5 per cent.

It was here that we saw a wonderful six-horse team of Clydesdales, which the driver handled very well at the trot.

After lunch, instead of going by train as originally planned, the staff at 'Guelph kindly arranged to send us all by car to Toronto. This made the journey much more interesting. Dr. Gwatkin, who has written an excellent booklet on "Contagious Abortion," was good enough to take me.

On the way we stopped at a fox farm—which was especially interesting to me as I had never seen one before—at which there were 1,000 foxes, housed in warm kennels. The dog foxes are killed at about 10 months old. They are bred usually about March and April. The vixens are kept till two years old, after they have had a litter of cubs; there are from one to nine in a litter. The whole lot of foxes were going to be sent the next week up to the north for four months, where it was much colder, and where in consequence, their pelts would get much thicker. A good breeding dog fox is worth 150 dollars (£30), and an average pelt fetches £10 to £15.

We arrived at Toronto Exhibition at 5 p.m. and had a rapid walk round. I had no idea that it was such an enormous affair; the grounds occupy 350 acres, and the show lasts over a fortnight. The cattle were just beginning to arrive from the show at Ottawa, and I was told that the Government helped exhibitors to pay their railway expenses; this would seem very necessary, as some of the cattle come over 3,000 miles. The President of the Show, Colonel Deacon, kindly entertained us all to dinner, and gave us excellent seats afterwards to see a very good pageant, which reminded us of the Aldershot Tattoo when "Abide With Me" was played at the end by the massed bands.

There had been a Parade of Old War Veterans, and each man wore a distinguishing cap to show which Division he was in; if a Canadian had joined the Imperial Forces, he wore khaki. There was a large number of poor fellows going about in bath-chairs and on crutches.

Toronto is a beautiful town with lovely buildings, and I thoroughly enjoyed an hour's walk before breakfast on the following day (August 26th), meeting a policeman who had come from Aberdeen 28 years ago.

After breakfast, Dr. J. A. Campbell called to take us in his car to see the Model Dairy Farm, belonging to a Mrs. Dunlop, which has already been described in *The Veterinary Record.* It certainly was finer than anything I had seen in England, and run absolutely regardless of expense, and on the latest and most up-to-date lines. Only Guernseys were kept, and the manager told me that their annual average of milk was 1,200 gallons, which in a Guernsey herd, with about 5 per cent. butter fat, is extraordinarily good. There were some lovely two-year-old heifers, yearlings and bulls (some won 1st prizes the following week at the show at Toronto).

The calves at birth are only allowed to be suckled by their dams twice and are then weaned. The milk is sold at a very high price, as the butter fat is not only exceptionally high, but the herd is free from tuberculosis and contagious abortion.

I find that in Canada and in certain States of America there are very strict regulations with regard to contagious abortion, and I hope that, in time, some regulations for this disease will be made in England. It causes enormous financial losses, and it is, in my opinion, the cause, directly and indirectly, of the mastitis which so frequently accompanies it.

To run a model farm with cattle of superquality, with large milk records, extra good butter fat records, and free of tuberculosis and contagious abortion, with the latest and most up-to-date buildings, and giving employment to about 80 men, is, one must own, a very good way of spending one's money.

Dr. Jenkins, a Canadian veterinary surgeon, is in sole charge, and a most perfect host.

Mrs. Dunlop kindly entertained us all to lunch, at which a number of distinguished guests were asked to meet us, including the High Commissioner of Canada, who was home on his holiday.

In the evening we were taken for a drive round Toronto; we were shown a lovely castle belonging to some gentleman who had, at his own expense, equipped, and sent to France, a whole regiment.

Departure was made by train for Ottawa on August 27th, traversing very pretty country and arriving at 6.30 p.m.

Dr. Watson and many of his staff were at the

station to meet us, and after dinner, took us in their cars for a drive to see an electric light plant and a waterfall (where we saw a lot of timber floating down to be used to make paper), and lastly, entertained us to refreshments at an hotel.

Next morning I was called for by Dr. Munnick, who was good enough to take me to see the Experimental Farm. After a very pretty drive there (through the Municipal Gardens) I spent a most interesting morning. I was first taken to the parts of the farm devoted to experiments in grass and corn growing, everything being shown and explained by the manager. They are certainly very go-ahead there.

I was then taken to see the cattle, and shown over by the manager of the Cattle Department. In both places I asked a thousand and one questions, and learnt a lot. There were some very fine Holstein cattle and Clydesdale horses, including a magnificent Clydesdale stallion imported from Scotland.

The afternoon was most informatively occupied in the company of Dr. Mackie, a New Zealander, who had driven me round the night before, and who now took me all over the Animal Research Institute, showing me the cattle used where Dr. Watson had been experimenting with the Calmette-Guèrin vaccine. Dr. Watson read a paper at the International Veterinary Congress in London in 1929 and again in New York this year, in which he spoke of having tried the vaccine, and having come to the conclusion that it did not confer any immunity.

Arriving at Montreal next day, we went for a drive in a charabanc, sight-seeing round the town. I said "good-bye" to the rest of the party, as they were leaving for Quebec, but I had decided to alter my plans, as I was very anxious to see the Holstein Cattle judged at Toronto next day. I therefore left at 4 p.m. for Toronto, where I arrived at 9 p.m., to find a note from Dr. Campbell, saying he would call for me in the morning, and that I was to lunch with him at the Show.

Eight a.m. on August 30th, then, found me at the Show, where I walked round all the cattle in the shed, before the judging commenced. I thought that they were a magnificent lot. I then went to see the Holstein Cattle judged.

The Senior Bull Class was an exceptionally good one. I was impressed by the quiet nature of the old bulls, most of them being led in the Ring by only a rope on the ring of the nose, a great contrast to the two sticks, with two men, and also blind-folds, which are often used in Show Rings at home.

They had one (youngish) Judge, and also an older experienced man called the Advisory Judge, to whom the Judge could appeal when in doubt. This is, I consider, a very good plan and brings in fresh blood. I also saw judged some of the classes of Guernsey, Jersey and Ayrshire cattle.

A pleasing feature of the Show was the setting apart of a place for children for educational purposes as regards animals.

I was the guest of the Directors of the Exhibition for both lunch and dinner. After lunch, the whole company rose and sang the National Anthem. I have attended many Shows at home in many different counties and towns, but this was the first time that I had ever heard "God Save the King" sung after lunch at an Agricultural Show.

Dr. Campbell took me to his home and Mrs. Campbell again entertained, and I caught the 9 p.m. train for New York. I had thoroughly enjoyed my day at the Show, and was very glad that I had gone back for it.

Next day, at midnight, I sailed for home, arriving at Southampton on September 6th. I shall always look back on my trip with very happy recollections, as I enjoyed every moment of it. The kindness and hospitality shown to us both in America and Canada were extraordinary. Nothing was too much trouble for our hosts, and in addition, the weather was perfect all the time, while I had a smooth passage in both directions.

Clinical Communications

CHOKING OF HORSES BY SUGAR BEET PULP

J. C. COLEMAN, M.R.C.V.S.,
SWINDON

Having experienced five cases of this distressing condition during the past four years, and having failed to observe any report upon it in the *Veterinary Record* or any reference to the subject in our text books, I am submitting a few notes which may stimulate others to give their experience, which I trust has been more satisfactory than mine.

CASE NO. 1. *Subject.*—Shire cart gelding, aged 8 years.

The horse appeared to be in perfect health until it had eaten its usual feed of oats, chaff and sugar beet pulp.

In about a quarter of an hour the carter observed that the horse was continually making an attempt to swallow, and was frothing slightly at the mouth. He offered the animal water, of which it took a small quantity, but which, when swallowed, immediately aggravated the symptoms previously shown; the frothing increased enormously and in addition, the horse arched his neck, contracting the muscles of the region and made violent attempts to vomit.

Examination revealed the œsophagus to be distended to the size of a man's arm for the last 4 inches before entering the thorax. Upon palpation it was not difficult to diagnose an obstruction of the lower third of the œsophagus with a material of the consistence of putty. Examination of a small quantity of the vomited material revealed beyond a doubt that the obstruction was composed of beet-pulp, etc.

Never having seen or heard of such a case, I was at my wits' end as to treatment or prognosis. However, ʒvi ol. ricini was given very slowly and at the same time the swollen œsophagus was well kneaded, with the salutary result that in a few minutes the animal vomited about 40 ounces of an emulsion of oil, sugar beet, chaff, etc. The process was again repeated with similar results, until the œsophagus outside the thorax was reduced to normal. The thoracic portion not being amenable to this treatment,

a whalebone probang with a cup 1¼ inches diameter at the end, was passed *per os.*, after having given a small quantity of oil as before. The probang was then gently moved in and out for about 6 inches after the obstruction was reached, with the object of emulsifying the contents as before. A further considerable quantity of the ingesta was removed by this means. The horse by this time had become somewhat unmanageable, but as there was still part of the obstruction remaining, it was decided to leave the animal until the following morning and to resume operations then.

Next day the horse was thrown, a general anæsthetic given and the adjourned proceedings of the night before continued. Very satisfactory results were obtained and the probang could now be passed into the stomach. The horse was allowed to rise, and instructions were given that if he felt inclined to feed all nourishment must be of a more or less liquid nature, such as boiled linseed and oatmeal, thinned with milk.

The following day it became necessary again to adopt the proceedings of the day before, with similar satisfactory results. The horse was seen daily for 14 days, when he had apparently made a good recovery.

Case No. 2. *Subject.*—Half-bred light vanner, aged 6 years.

Immediately after consuming its feed of bran, chaff and sugar beet pulp, the horse presented symptoms of choking.

Upon examination of the animal, this was diagnosed to be a case of choking, as was suggested by the symptoms, but in this case the œsophagus was not distended.

The horse was given 6 ounces of glycerine and water (equal parts) and the probang passed as before in Case No. 1. The obstruction was soon removed, the probang passing into the stomach.

Instructions were left as to feeding and the horse made an uneventful recovery.

Case No. 3. *Subject.*—Cart gelding, aged 12 years.

This animal was found by the carter, on arrival in the morning, to be down, unable to rise and apparently vomiting froth incessantly.

Upon my arrival, the horse was dead. *Post-mortem* examination revealed the œsophagus packed full, to within 7 inches of the pharynx, with sugar beet pulp only; a considerable amount was also found in the stomach.

The bronchii were filled with froth and sugar beet pulp.

Diagnosis.—Death from asphyxia.

Case No. 4 was exactly similar to Case No. 2. In this case, however, only a small quantity of sugar beet pulp had been eaten, and the condition was observed and attended to at once. Recovery followed.

Case No. 5. *Subject.*—Cart gelding, aged 15 years and in rather poor condition.

The animal was observed on the night of Saturday, December 8th, to be frothing at the mouth and vomiting. The horse had been regularly fed with sugar beet pulp.

December 9th.—Examination revealed a distended œsophagus, the distended portion being 3 inches in diameter at the lower part of the neck and extending for about 5 inches up the neck from where the œsophagus leaves the thorax. The vomit contained quantities of beet pulp and chaff.

The same treatment as in Case No. 1 was adopted, but results were not so satisfactory. The animal was allowed a bucket of water and a bucket of linseed tea, of either of which he could partake at his leisure.

December 11th.—The animal had consumed two bucketsful of water and had vomited a quantity of sugar beet pulp and the obstruction had disappeared. Pulmonary symptoms, however, were evidenced, and the breath was most fœtid. Auscultation revealed double pneumonia. Death took place the same afternoon.

Post-mortem Examination.—The œsophagus was clear of any obstruction and the stomach quite empty. The parietal and pulmonary pleural membranes were covered with pus, both lungs were very distended and upon incision very black, and quantities of beet pulp were present in the bronchioles and trachea.

Conclusion.—Septic pneumonia.

In conclusion, I would, from my experience of this condition, as related above, stress the importance of treating these cases at the earliest possible moment, otherwise a very high mortality is inevitable. Moreover, the danger of ultimate complications is a very real one and increases the importance of prompt intervention.

* * * * *

OPERATION FOR REMOVAL OF AN OBSTRUCTION IN THE ŒSOPHAGUS AT THE DIAPHRAGM IN A COW

E. MURRAY LAMB, M.R.C.V.S.
Conon-Bridge, Ross-shire.

Subject.—A young Galloway cow. She was unable to eat without vomiting. When seen, she had been like this for about a week—she would start ravenously on any food offered her, but would begin a violent spasm of vomition with a prolonged period of salivation.

Diagnosis.—Obstruction was suspected, from the rapid onset of vomition after deglutition.

Examination.—A stomach tube was passed *via* the nostril. The tube received a check,

apparently halfway down the thoracic portion of the œsophagus, from a firmly resilient body. An attempt was made to "wash" this away with a stream of water pumped in hard, but with no result. An operation was suggested and the cow prepared.

Preparation for Operation.—The cow was cast on clean straw on her right side, the left hind leg being extended and tied behind to a post. The other three were tied together. Her left side was clipped and shaved in a strip from the last rib to the hip; this portion was washed, cleaned with S.V.M. and painted with iodine. The animal was anæsthetised with chloroform by a mask over the nose and a bag wrapped tightly round the head, but leaving the open end of the mask free for the insertion of a wad of cotton wool soaked with 2 ounces of chloroform, more being added in ½ ounce doses as required. All instruments and a pound of cotton wool were sterilised by boiling.

Operation.—The owner, the only available assistant, remained standing with upraised hands until required to hold the rumen.

An incision was made through the skin, close to the last rib, and extending down the flank from the level of the head of the femur for about 11 inches. Some small vessels were encountered in subcutaneous fascia: these were held by artery forceps and incised with the fascia. The muscle was then parted in the direction of the fibres, by blunt dissection with the fingers, to the peritoneum. Finally, the peritoneum was incised and a portion of rumen withdrawn through the opening—this portion was held out by the owner and packed round with cotton wool. An incision was then made, large enough for the easy entrance of the operator's hand and arm. The rumen was found in a surprising state of emptiness, but some of the contents were removed to make room inside. The arm was then inserted up to the shoulder and the œsophageal opening found. On inserting the fingers into the œsophagus, the obstruction was felt on the other side of the diaphragm. This was a slice of turnip wedged across the opening in the diaphragm, and backed by a wad of packed hay. The œsophagus was considerably dilated. The turnip slice was broken and removed, the remaining obstruction removed by means of whelping forceps, and a final clearing made by means of the stomach tube passed *via* the rumen.

The operator had then to scrub up again very thoroughly. The rumen was closed by continuous suture, buried by another row. Two stitches were put through peritoneum and muscle, silk sutures being used in each case. The skin was sutured with thin tape.

Result.—A subcutaneous abscess occurred in a week, but after draining, cleared up and healing was rapid, leaving a barely perceptible scar. Owing to the œsophageal dilatation, the cow was fed on gruel for a fortnight, then put on to sloppy mashes for a week, after which she was allowed to graze short grass, at first for short periods of an hour until eventually in three months she was grazing normally. She was sold at the autumn sales in the fat ring.

Abstracts

[**The Influence of Starvation on Anthelmintic Efficiency.** Clunies Ross, I., and Gordon, H. McL. *Aust. Vet. J. 10.* pp. 135-142. 4. Tables 4. Refs. 6.]

The authors summarise their results as follows:

1. In view of the fact that evidence relating to the value of starvation in increasing anthelmintic efficiency in sheep is inconclusive, a controlled experiment was devised to determine this point in relation to the efficiency of copper sulphate and carbon tetrachloride against *Hæmonchus contortus*.

2. A uniform group of young merino lambs not previously exposed to infection with *H. contortus* were each artificially infected with 7,000 *H. contortus* larvæ.

3. After daily egg counts over an extended period of 14 days had been made, these lambs were divided into five comparable groups, which were treated as follows:

(*i*) Treated with copper sulphate, unstarved.

(*ii*) Treated with copper sulphate, starved 24 hours.

(*iii*) Treated with carbon tetrachloride, unstarved.

(*iv*) Treated with carbon tetrachloride, starved 24 hours.

(*v*) Untreated controls.

4. On autopsy of all treated lambs nine days after treatment, no statistically significant difference was found in the efficiency between starved or unstarved groups receiving either drug. In each case a slightly higher average efficiency was attained in the unstarved groups.

5. A greater efficiency was gained by both drugs against females than male worms.

6. A very high degree of variation in susceptibility to infection was shown by experimental lambs in spite of their age and uniformity.

. . . . .

The authors' conclusion is as follows: There is no evidence that prior starvation for 24 hours in any way increases anthelmintic efficiency of copper sulphate or carbon tetrachloride against *H. contortus*.

[**Preliminary Note on the Transmission of Bovine Hæmorrhagic Septicæmia by the Flea *Ctenocephalus Felis* Bouche.** Daubney, R., Hudson, J. R., and Roberts, J. I. (1934.) *J. Comp. Path. and Ther.* 47. 3. 211-213.]

During the recent investigation into two outbreaks of hæmorrhagic septicæmia in cattle in Kenya, the authors noticed that the young, particularly unweaned, cattle were heavily infested with the flea *Ctenocephalus felis* Bouche, and that the rough buildings housing the cattle harboured large numbers of this species of flea.

Fleas were collected from 13 apparently healthy cattle after the herd had been vaccinated with a dead vaccine, and these were allowed to feed on mice. Unfortunately, these defended themselves against the attacks of the fleas, but one mouse died from *Pasteurella boviseptica* infection four days after the infestation and four mice inoculated with the spleen pulp of this mouse died of the disease.

Fleas were collected from a calf dead of the disease and they were distributed amongst eight mice. One of these died four days later and blood from this mouse killed four others within the incubation period. Blood from one of these mice, inoculated into a normal calf, caused a severe reaction and later the calf was immune to a large injection of a culture of *P. boviseptica*.

The authors conclude that this flea, when present in large numbers, may transmit the disease.

Further investigations are to be carried out by direct experiments with fleas and calves.

B.B.-J.

* * * * *

[**Method of Inducing Œstrum in the Mare.** Ralston, A. G. (1934.) *J. Roy. Army Vet. Corps.* 5. 4. 178-179.]

The author describes two experiments on batches of mares which had not shown œstrum for a considerable time, in which clinical examination had failed to show any abnormality except in one case.

First Method.—Six mares were treated with 100 c.c. doses of prepared urine from pregnant mares subcutaneously for five days. Two mares reacted, one on the sixth day and one on the eleventh day, and both held to the second covering on the 29th and 45th days respectively. The other four mares all came into season between the 40th and 50th days after treatment, and one was in foal to the first covering.

Second Method.—Owing to the difficulty in obtaining and preparing the urine, 19 mares were given one 5 c.c. subcutaneous injection of "Prolan" (anterior pituitary extract). Six failed to respond but 13 responded within a month and three of these are in foal to the first covering and one to the second.

Two mares which failed to respond were given a second injection six weeks later and both came into season, one five days later and the other 23 days later; the second is in foal to the first mating.

B.B.-J.

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[**Fracture of the Carpus in a Mare.** Bergmann, G. (1934.) *Tierärztl. Rdsch.* 40. 22.]

This case, a bad fracture of the left carpus in a hunter mare, is something of a rarity, because it provided the opportunity for studying the process of repair of a condition not normally treated, but condemned to emergency slaughter.

Treatment was instituted at the owner's special request and took the form of appropriate bandaging and support of the mare in slings. The result was very unfavourable, as the carpal joint assumed an angle of over-extension and became anchylosed and function of the limb remained almost nil.

The animal was, therefore, killed and the joint was examined. The main findings were a multiple fracture of the radial carpal bone and serious dislocation of the intermediate and ulnar carpal bones. The distal row was unchanged except that it was enclosed in a callus, which was formed round the entire joint.

The general disturbance to the integrity of the complex joint following the destruction of one of its members and the part played by the several muscles and their tendons passing over it are discussed. In this case the tension of the flexor carpi radialis was the chief factor in compressing the anterior part of the carpus, thus forming a backward bend in the joint.

J. E.

* * * * *

[**Observations on Active Immunisation against Anthrax.** Manley, F. H. *Vet. J.* June, 1934. pp. 245-262.]

The author's account of active immunisation against anthrax relates to his campaign against this disease in Cyprus, and records results obtained by the South African method (using attenuated strains obtained from Onderstepoort for his preparation of the spore vaccine). He compares the results with those obtained by the Italian method (Carbozoo vaccine) and also with his attempts to simulate the latter method (a secret commercial one) by the use of varying concentrations of saponin added to diluted spore cultures of anthrax.

He gives full details of his preparation and standardisation of these two types of vaccine.

His vaccination results with the South African method are entirely satisfactory, but the preparation and standardisation of this vaccine is tedious and takes about ten weeks.

On the other hand, preparation of the "saponin plus culture" vaccine is simple. His preliminary attempts on the production of a vaccine on these lines are encouraging, but he has yet to overcome the objection of very severe

reactions at the site of inoculation (which are not entirely absent from the Carbozoo vaccine). So far, they have precluded the use of the vaccines he has prepared with saponin in any extended field trials. C. V. W.

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[**Manganese Deficiency as a Factor in Bovine Sterility.** Tutt, J. F. D. (1934.) *Vet. J. 90.* 8. pp. 355-6.]

The author describes treatment of three Jersey cows for persistent œstrus of a regular and irregular nature, with endometritis or vaginitis and cervicitis. Two cases received treatment for cystic ovaries. None of the cows responded to usual treatment including various antiseptics, Yatren vaccine and Parat leaves.

Two cases responded to collosol manganese (Willows) in 10 c.c. doses given at weekly intervals until no œstrus was seen for six weeks following service. Neither manganese nor wheat-germ therapy benefited the third case.

C. V. W.

* * * * *

[**Successful Treatment of Ringworm, using Derrilavol.** (Translated title.) Schneider. *Tierärztl. Rdschr.* June 24th, 1934. No. 22. page 371.]

The writer gives his experience in the treatment of ringworm in two herds of cattle. The animals were extensively affected, particularly over the hind quarters. The diagnosis was confirmed microscopically.

The treatment adopted was the application of 3 per cent. Derrilavol (Derrilavol, prepared by Chemische Fabrik Marienfelde, is a proprietary preparation, containing about 25 per cent. derris extract with 8 per cent. Rotenon), which was repeated after three days. The lesions quickly healed and after three weeks the areas were again covered with a growth of hair. New lesions did not develop.

A photo-micrograph of Trichophyton tonsurans is included and a list of related references is appended. J. W. H.

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Report

ARMY VETERINARY SERVICE IN INDIA

Annual Administration Report for 1933-34

The average annual strength of the Army, including chargers and animals in Remount Depôts, Military Dairy Farms, and Military Grass Farms, was as follows :—

Horses in units	26,416	32,588
Ditto in Remount Depôts ..	6,172	
Mules in units	24,289	27,268
Ditto in Remount Depôts ..	2,979	
Camels		3,843
Cattle in units	30	14,289
Ditto in Remount Depôts ..	6,172	
Ditto in Military Grass Farms	1,089	
Ditto in Military Dairy Farms	6,998	
Donkeys in Remount Depôts		118
Total		78,106

GENERAL REMARKS

(*a*) The general condition of the animals was good.

(*b*) Among the general diseases which occurred during the year, the following were worthy of note :—

Colic in Quetta.—For some years the incidence of colic among horses in Quetta has been exceptionally high, in one regiment admissions amounting to 24 per cent., the cause being attributable to full rations of bhoosa. Where green fodder was given, incidence was not so high, and the substitution of 7 lbs. of green fodder for bhoosa during the summer and 7 lbs. of hay for an equivalent amount of bhoosa in the winter, reduced incidence by nearly 50 per cent. For the past few years it has been customary to give horses in Quetta a periodical dose of castor oil. This has decreased the mortality, but has not had a marked effect on admissions for colic.

Paraplegia.—Paraplegia is a not uncommon symptom among horses in India and sometimes reaches an epizootic stage. A somewhat severe outbreak occurred in a Cavalry Regiment on the line of march, occasioning 70 cases and involving 21 deaths. The services of Professor Shirlaw, the pathologist at the Lahore Veterinary College, were obtained, who proved that it bore a marked resemblance to the equine encephalo-myelitis occurring in America and Europe.

Ringworm.—Two outbreaks were reported. Fifty-seven horses of an Indian Cavalry Regiment at Sialkot were affected, and 35 cases in a Remount Depôt. In both cases the disease was of a mild type.

Catarrh.—Thirty-seven cases occurred in an Artillery unit in the Southern Command, but there were no deaths.

Variola.—Two outbreaks occurred, one at Delhi (105 horses) and one at Agra (25 mules). In both instances these were of a mild type.

Broken Wind.—A total of 75 cases was recorded (horses 29, mules 45, bullock one). A board of State Veterinary Officers attributed the condition to feeding on crushed but unboiled "kulthi."

Castrations.—One thousand two hundred and ninety animals were castrated.

* * * * *

(c) Horse Breeding Areas in the Punjab

Three veterinary officers are employed in the Horse Breeding Areas, assisted by 71 veterinary assistant surgeons and zilladars.

The horse population is :—

Brood mares	12,178
Stallions	313
Donkey stallions	212
Stallions (District Board) ..	28
Donkey stallions (District Board)	3

The general health of stallions is good, and sterility is not an important factor.

All mares are submitted to veterinary examination before being selected as brood mares. In regard to fertility, Captain Ralston claims to have had 50 per cent. of success with "prolan" treatment. Ovarian manipulatory treatment has also proved successful in a large number of cases. Laboratory experiments for pregnancy (Aschheim-Zondek Test) are being carried out at the Imperial Institute of Veterinary Research Muktesar. In regard to disease in the Horse Breeding Areas, since July 1st, 10,335 cases were admitted for treatment with 197 deaths (1·9 per cent.). One hundred and forty-eight cases of abortion were admitted. Except in large studs the incidence of this disease is of little importance. The Imperial Institute of Veterinary Research, Muktesar, has been carrying out experiments of vaccination in one stud. Two hundred and seventeen cases of joint-ill were admitted and 12 deaths occurred, the incidence being high in one breeding area. Two hundred and seventy-three cases of strangles were admitted and 12 deaths were recorded. Twenty-nine cases of bursattæ were recorded : the disease among the stallions is causing anxiety. There was an outbreak of glanders in Rawalpindi City, and 541 private horses were tested with mallein, 16 reacting and being destroyed. There was an outbreak of surra in the Shahpur District, 31 cases being admitted and treated with naganol: three died. One thousand nine hundred and forty-nine cases of digestive diseases were admitted and 57 died : there has been a decrease in mortality since veterinary assistant surgeons have become accustomed to use the stomach pump.

Remarks on Specific Diseases

(*a*) *Anthrax.*—In all, 26 cases were reported, Burma accounting for 12 cases. At three stations in Burma vaccination of all chargers and Government animals was practised, a spore vaccine being supplied by the Insein Laboratory, Rangoon. The results to date are encouraging, and experiments in this connection are proceeding.

(*b*) *Black Quarter.*—Two fatal cases among cattle of Military Dairy Farms were recorded, one at Lahore and one at Ambala.

(*c*) *Contagious Abortion.*—Five cases were recorded, three cattle and two donkeys. At the Stud Farm, Ahmednagar, 61 mares and 10 stallions were subjected to the agglutination test for *Brucella abortus.* One gave a positive reaction, six were suspicious, 17 were slight reactors, and 26 were negative.

(*d*) *Foot-and-mouth Disease.*—Thirty outbreaks were reported, involving 1,343 animals of the Military Dairy Farms and Military Grass Farms. Sixteen cases proved fatal, of which eleven were pure-bred Friesian cows and calves.

(*e*) *Glanders.*—Eight cases were reported, four cases in the Northern Command, and four in the Eastern Command. In each of these cases extension of the disease to other animals was prevented and a consequent outbreak avoided.

(*f*) *Hæmorrhagic septicæmia.*—Thirty - eight cases occurred in five Military Dairy Farms in the Northern Command and 36 deaths ensued.

(*g*) *Influenza.*—There were 910 cases as compared with 549 last year. The disease was of a mild type, and there was only one death. In addition, there were two outbreaks among camels, 28 animals being affected with five deaths.

(*h*) *Jhooling.*—Thirteen camels were affected, as compared with six last year.

(*i*) *Johne's Disease.*—Fifteen cases were reported, five among cattle in Military Dairy Farms and ten in Remount Depôts.

(*j*) *Nasal Granuloma.*—No cases occurred during the year.

(*k*) *Piroplasmosis.*—Three hundred and thirty-three cases (312 horses, 3 mules, 18 cattle) were reported as against 194 last year. This year the disease was most prevalent in Lucknow.

(*l*) *Rabies.*—Nine fatal cases (seven horses and two mules) occurred in seven different stations as against 14 fatal cases last year.

(*m*) *Rinderpest.*—Two outbreaks occurred—one at Ambala, where there was a breakdown in immunity, 13 cattle (eleven buffaloes, two cows) which had previously been immunised, contracting the disease. There were four deaths. The other outbreak was at Peshawar, twelve young calves being attacked, of which seven died. During the year 1,834 cattle of the Military Dairy Farms and Military Grass Farms were inoculated. Several important changes in

the procedure of inoculation were introduced :—

(1) Inoculations were carried out on the standings, unprotected animals being strictly isolated.

(2) Cows were inoculated up to within one month of calving.

(3) Pure-bred foreign stock were given goat virus and a full dose of serum simultaneously.

(4) Cross-bred and indigenous stock were inoculated :

(*a*) Calves (six to twelve months)—Goat virus alone.

(*b*) Adults (over two years)—Bull virus and serum simultaneously, the dose of serum being half of that previously given.

(5) Major G. Barnett, M.C., R.A.V.C., worked out a time-table designed to speed up and facilitate the process of inoculation and this has been accepted as the routine procedure. Considerable economy in serum has been effected thereby.

(*n*) *Strangles.*—In all, 1,284 horses, mules and donkeys were attacked during the year (868 horses, 398 mules and 18 donkeys). There were 50 deaths (44 horses, 4 mules, 2 donkeys). The great majority of cases occurred in the young stock Remount Depôts at Mona and Sargodha. This year a new Strangles Hospital and Convalescent Paddocks have been constructed in the depôts and a new system of reception paddocks adopted.

(*o*) *Tetanus.*—Forty-nine cases are recorded (36 horses, 11 mules, one camel, one cow) death resulting in 37 instances.

(*p*) *Trypanosomiasis* (Surra).—Five horses and 514 silladar camels were attacked, 19 camels died. The mercuric chloride test has been used extensively, and to some extent the number of cases recorded is due to the more accurate diagnosis which can be made thereby. During the Mohmand operations this year, 383 camels were employed. Of these, 105 were affected with surra. All cases were treated with naganol and only one died.

(*q*) *Tuberculosis.*—Nine cases were recorded, six in cattle and three in camels. Deaths and destructions amounted to eight.

(*r*) *Theileriasis.*—Only three cattle were affected this year, and in no case did the disease prove fatal. J. M.

What is believed to be the world's largest milk depôt has been constructed at Wood Lane by the United Dairies, Limited, for its subsidiary company, the London Wholesale Dairies. Covering an area of nearly eight acres, it is served by extensive railway sidings. Milk will be conveyed in 3,000 gallon rail tanks from the firm's collecting depôts. The processing department has the most up-to-date equipment in the milk trade, capable of handling 70,000 gallons of milk every day. To give road access to the depôt the construction of a 30-ft. long bridge over the Ealing extension of the Central London Railway was necessary.

Review

R.S.P.C.A. Animal Clinics and the Decentralised System of Veterinary Treatment

We have received a copy of a booklet,* which has, we understand, been circulated to all branches of the Royal Society for the Prevention of Cruelty to Animals, embodying recommendations made by the Society for the establishment and conduct of their animal clinics and of the decentralised system of veterinary treatment.

There can be no doubt that this publication will prove of the very greatest assistance, not only to those committees of the R.S.P.C.A. charged with the duty of carrying on this work, but to veterinary surgeons who are co-operating therein.

In the introduction it is stated that in 1932 a very important advance was made in the scheme whereby animals of the genuinely poor could receive free qualified veterinary advice, owing to the active interest in this work which was displayed by the National Veterinary Medical Association. "Discussions took place between the Society and the N.V.M.A., with a view to discovering some scheme whereby the R.S.P.C.A. and the Veterinary Association could co-operate on a national basis. Following upon this, a double scheme was evolved, which, after being submitted to the various divisions of the N.V.M.A. and to the Branches of the R.S.P.C.A. was generally approved by both.

"The scheme agreed upon provides for (*a*) the Centralised system, or provision by the Branch of a Permanent Clinic, and (*b*) the Decentralised system, under which the patient is taken to the veterinary surgeon's premises.

"In connection with this practical work on behalf of animals and birds, the Council of the R.S.P.C.A. have definitely decided that only fully qualified veterinary surgeons shall be employed in both schemes.

"By Resolution of the Council, April, 1934, it was decided that the name "R.S.P.C.A. Animal Clinic" should be used for all dispensaries working under the ægis of the Society, exception being made, however, in the case of certain dispensaries to which a special title had already been given."

In co-operation with the then President of the N.V.M.A., in 1932 the Society's Veterinary Adviser at Headquarters prepared a list of drugs, dressings and veterinary equipment, and which, it is considered, contains everything that is absolutely necessary to the veterinary side of clinic work, and nothing superfluous.

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* "Recommendations for the Establishment and Conduct of R.S.P.C.A. Animal Clinics and of the Decentralised System of Veterinary Treatment."

Concerning the use of humane killers it is stated: "It is desirable that large dogs, goats, and other of the larger animals likely to be brought to Clinics for painless destruction should be shot, rather than lethalled; humane killers and ammunition for this purpose can be obtained from Headquarters."

On the question of control, the Society observe: "It has been suggested that a veterinary surgeon nominated by the local division of the N.V.M.A. should serve on each Clinic committee, with the object of enabling the committee to administer the institution with the assistance of professional advice, and also that the public may realise that the institution is a joint undertaking between the R.S.P.C.A. and the Veterinary Profession. . . . The duty of almoners is to interview each person bringing an animal to the Clinic, and to record his or her name and address and details of the animal patient on a special card index, which is supplied on application by Headquarters. When doing so, they are expected to make sure, by tactful enquiry, that the person bringing the animal patient is entitled to free treatment. Nothing has proved of greater difficulty in the negotiations between the Society and the veterinary profession than the question of how to deal with the person well able to pay veterinary surgeons' ordinary fees, who yet endeavours to obtain free treatment under the Society's ægis.

"It will be appreciated that this is unfair to the veterinary profession, and that it is the duty of the Branch to take every possible precaution to prevent such exploitation.

"The question has frequently arisen as to the correct procedure when a person obviously able to pay ordinary fees brings an animal patient to a free Clinic.

"If the case is one of urgency, treatment should be given without delay. Before the animal is allowed to leave the Clinic, however, the Almoner should inform the owner that he is expected to make a donation to the Clinic fund, equal to the fee chargeable under ordinary circumstances by a veterinary surgeon. Where the case is not one of urgency, the owner should be informed that this is a Clinic for the treatment of animals of poor people, and should be given a list of the names and addresses, and telephone numbers, of the nearest veterinary surgeons, so that the owner will have no excuse in the future for obtaining assistance to which he is not entitled.

"It is most necessary that there should be a capable person present to help the veterinary surgeon, by holding animals during examination, and to assist in minor ways while he is carrying out his work. In many instances the local Inspectors of the R.S.P.C.A. volunteer to do this work, because of the experience and knowledge they gain by so doing, but it is advisable to have in addition a panel of voluntary helpers in case the Inspectors should be engaged on other important duties.

"In the case of the smaller Clinics, the only salaried official is the veterinary surgeon, who attends while the Clinic is open for veterinary work, as opposed to any hours during which the Clinic may be open solely for the purpose of lethalling or shooting animals.

"It is quite impossible to lay down a hard and fast rule as to the remuneration to which veterinary surgeons are entitled. Some practitioners are generous enough to give their services for nothing, others charge a fee ranging from 8s. 6d. to a guinea an attendance, and a few veterinary surgeons are retained on an annual salary basis.

"A difficult point which arose early in the history of Animal Clinics is that of major operations. Most veterinary surgeons, in whatever agreement they make with the Society, stipulate that the fee paid to them by the Society does not include major operations, and the usual arrangement is that such cases shall be taken on their merits, and the veterinary surgeon will charge the Society as little as he can.

"Major operations, however, are not often performed, for the simple reason that they almost always necessitate a period of convalescence, involving frequent changes of dressings, etc., which the owners have neither the time nor the domestic facilities to provide."

As to availability, it is observed: "As the number of patients increases, it is possible to increase the Clinic hours, and the number of times per week it is open. It should be understood that at whatever hour the Clinic is advertised to close, it remains open while any patients are awaiting attention. In this connection the Society owes a debt of gratitude to the veterinary surgeons, who have, on many occasions, greatly exceeded their official hours of attendance without charging any additional fee.

"The destruction of animals forms a definite part of Clinic work, and the following rules should be enforced:—

(*a*) Every animal brought for destruction should be put to sleep by one of the methods definitely approved by the Council of the Society.

(*b*) Only such persons who are fully trained in this work should be allowed to attempt it.

(*c*) They should work under the direct supervision of the veterinary surgeon, and the Committee and officials of the Clinic should repeatedly assure themselves personally that the destruction work is carried out as it should be.

(*d*) No dead animal, whether shot, lethalled or painlessly put to sleep in any other way, should be removed from the premises until *rigor mortis* has set in. The last rule is particularly important as, by its enforcement, the possibility of an apparently dead animal afterwards recovering consciousness is nullified."

DECENTRALISED OR FREE VOUCHER SCHEME

"It is clear that from the Society's point of view, as regards convenience, propaganda and general advertisement, a permanent Clinic is desirable, especially in crowded industrial areas. Frequently, however, the establishment of a Clinic is found impracticable, either owing to local conditions and finance, or to the inability of local veterinary surgeons to assist. In these circumstances the "Decentralised" scheme is to be recommended. Under it, owners can take their ailing animals for free treatment at the premises of a veterinary surgeon, presenting on arrival a printed voucher signed by an accredited representative of the Branch.

"To establish this scheme within a Branch the procedure is as follows:—

"(*a*) *Agreement with Veterinary Surgeons.*—The Branch Hon. Secretary approaches local veterinary surgeons, explains the scheme, and endeavours to enlist their practical sympathy.

"Should the veterinary surgeons be willing to co-operate, it is advisable to effect a signed agreement between the Branch and the veterinary surgeons, for a trial period of three to six months, the position to be reviewed at the end of that period.

"The usual arrangement for veterinary surgeons' charges is a flat rate fee per case, to include or not, as may be agreed upon, the cost of drugs and dressings.

"Fees for major operations, as mentioned earlier in this pamphlet, are best arranged in each case according to the severity of the operation.

"(*b*) *Free Treatment Vouchers.*—It is most essential that these vouchers, printed and issued in book-form by Headquarters, should be used, both for the protection of the Branch and of the veterinary surgeons themselves.

"Only by the use of such forms can the Branch check the monthly or quarterly accounts submitted by the veterinary surgeons, and the veterinary surgeons, in turn, be assured that people coming to them for free advice are genuine cases.

"(*c*) *Holders of Free Treatment Vouchers.*—Books of vouchers are usually held by Branch Hon. Secretaries, Branch Inspectors, Veterinary Surgeons, the Police, Chemists, and other suitable people.

"The appointment of holders of vouchers should be made with the greatest care to avoid exploitation of the scheme by dishonest people."

"At periods agreed upon between the Branch and the veterinary surgeons, the latter should forward their accounts, *together with all vouchers presented* to the Branch Hon. Secretaries, thus enabling the accounts to be checked with the voucher counterfoils.

"The financial responsibility of a Branch under this scheme is, of course, very much less than when a permanent Clinic is involved, the liability being confined to the veterinary fees incurred, and the minor costs of advertising, postage, etc. As a contra to such expenditure, it is advisable to effect an arrangement whereby veterinary surgeons co-operating with a Branch hold a Branch collecting-box, and display it prominently in their surgeries. The box should be emptied at regular intervals, in the presence of the veterinary surgeon, and a receipt given for the contents."

The brochure concludes with the following general remarks: "It should be remembered that this excellent work, which is now being carried on *jointly* by the R.S.P.C.A. and the Veterinary Profession, on behalf of the sick and injured animals of the poor, is, comparatively speaking, still in its infancy.

"In consequence, it is almost inevitable that from time to time local difficulties will arise, which, however, should easily be overcome by mutual goodwill and a genuine desire to find an amicable solution.

"The services of the Society's Veterinary Adviser are always at the disposal of Branch Hon. Secretaries and their Committees, and further information on any aspect of the administrative side of this work will be most readily supplied by the Chief Secretary."

THE CHANGING OUTLOOK IN ZOOLOGY

There was general agreement among the speakers at the Annual Meeting of the Association of British Zoologists, held on Saturday last, that there is evidence of change in the outlook of workers in zoology. The majority of speakers agreed that the most promising fields of zoological research now lay rather in the study of the animal as a living thing than in that of its dead body. Zoologists to-day, it was stated, are coming more and more out of the laboratory and working towards a broad knowledge of animal life in its natural surroundings. Natural history and the study of animal behaviour are coming into their own, founded to-day on a much wider knowledge of more specialised branches of the science, such as genetics and comparative morphology and physiology. To this tendency workers in the economic applications of zoology have largely contributed. In fact zoologists are coming to be interested more or less equally in all branches of the study of animals.

Notes and News

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events

Jan. 14th.—Meeting of the Editorial Committee, N.V.M.A., at 2, Verulam Buildings, Gray's Inn, W.C.1, at 4 p.m.

Jan. 17th.—V.V.B.F. Ladies' Guild Dance.

Jan. 18th.—Meeting of the Mid-West Division, N.V.M.A., at Bristol.

Jan. 25th.—Annual General Meeting of the Royal Counties Division, N.V.M.A., at Reading.

Feb. 6th.—R.C.V.S. Voting Papers issued to members overseas.

* * * * *

FACTS *VERSUS* OPINION

The Hippocratic Ideal

It might be asked: "How can we advance?" He would suggest, first and foremost, in the subject of diagnosis. We should leave no diagnostic aid unexplored with a view to ascertaining all the possible facts. He would remove the term "I am of opinion" from their vocabulary—for the value of that opinion was directly proportionate to the amount of fact upon which it was based—and replace it by the statement: "I have found out the following facts, which are irrefutable." A rational forecast as to the outcome of medical or surgical treatment could only follow complete accuracy in the diagnosis of the disease that existed. If, as the resultof facts ascertained, it was found that the case was incurable, the only useful purpose to be served was to make it perfectly clear to everybody concerned at once. The day of the "bottle of medicine" was past, but it had not gone: the implicit faith which the British public placed in this commodity had done much to hamper advance both in medical and in veterinary science. —Professor J. G. Wright, F.R.C.V.S., acknowledging the presentation to him of the Victory Medal at the 61st Annual Dinner of the Central Veterinary Society, November 1st, 1934.

The above passage, uttered recently by one of the most enterprising and gifted of our younger veterinary clinicians, sounds in curious resonance with the exhortations of the Father of Medicine, Hippocrates, which, coming down to us from the distant centuries as the greatest inspiration in human medicine, were also recently the subject of a profoundly suggestive and illuminating address,* delivered to the Abernethian Society, St. Bartholomew's Hospital (November 15th, 1934), by Dr. J. A. Ryle, the distinguished physician to Guy's Hospital, London. We would commend our readers, bearing in mind the wholesome urge conveyed by Professor Wright to substitute in the study of clinical veterinary medicine a solid basis of scientifically ascertained fact for mere opinions—connoting, as they often do, idle speculations and foolish prejudices—to a perusal of Dr. Ryle's significant address, with all the implications of the Hippocratic teachings upon the future of human medical study.

Some of the passages which deal with the Hippocratic ideals are reproduced below. We venture to think that they will interest many veterinary workers, some of whom doubtless feel with dismay that the great advances made in laboratory research within late years have not run parallel with a corresponding increase in clinical acumen.

* *The Lancet*, 1934, December 8th, pp. 1263-1268.

The Hippocratic Ideal

By JOHN A. RYLE, M.D., F.R.C.P. (LOND.)
PHYSICIAN TO GUY'S HOSPITAL

Life and Work of Hippocrates

Of the details of the life of Hippocrates little is known, but we have evidence that he flourished in the fifth century B.C., that his period of greatest activity was in the latter half of that century, and that he lived to a great age.

His contemporaries included the statesman Pericles; the poets Æschylus, Sophocles, and Euripides; Socrates and Plato, the philosophers; Herodotus and Thucydides, the historians; and Phidias, the sculptor. He came of physicianly stock and probably received a part of his early training in the temples of Health from his own father. The school which he founded was in the little island of Cos in the Ægean Sea. In the market-place of the chief town of Cos there still stands a very aged plane tree which is reputed to have flourished in his day, and in the shade of which he is believed to have taught. Expert opinion has pronounced it possible for the tree to have endured such longevity. In his later years Hippocrates travelled much. His advice was in great demand, and he won in his lifetime a degree of respect and veneration fore-shadowing and in full keeping with his later fame.

The Hippocratic Collection consists of a number of writings on medical and allied topics, some of which are ascribed directly to Hippocrates himself, some which may yet be regarded as genuine products of his school to his disciples, and others which are now accounted as spurious and of later date. Among the more noteworthy of these writings are the following: Epidemics I and III; Airs, Waters, Places; The Aphorisms; Prognostic; Regimen in Health; Regimen in Acute Disease; The Oath; Wounds of the Head; Fractures; Joints; The Sacred Disease.

Of his work and practice we may assume that he probably saw and advised his patients and taught at a temple of Health or its equivalent, much as a modern physician might hold his clinic. Probably his case records and those of his assistants were accumulated in the library of the institution. Of the case-report system he may be regarded as the founder. We have no doubt from his vivid descriptions of fever cases in The Epidemics that he also visited patients in their homes. Occasionally his opinion was sought by public authorities in great emergencies, as when Athens was afflicted with plague.

The Scientific Ideal

What was the great contribution of Hippocrates to the science of medicine? The advancement of the biological sciences, of which human pathology is surely not the least, has depended upon the combined contributions of observation and experiment. The method of experiment was a late arrival and, although there were experimenters before his time, Harvey may be regarded as its first outstanding exponent. Hippocrates was literally the founder of the observational method, and in this we may claim for him an even greater regard than that implicit in his

familiar title, the Father of Medicine. We have to imagine that before his day medicine was compounded in large part of first aid, quackery, and superstition, and that even physicians of repute relied far more upon tradition and speculation than upon recorded fact. Hippocrates set himself steadfastly against speculative philosophies and quack therapy, and applied himself to the task of accumulating knowledge of disease and of man in disease by accurately recording what his own senses revealed to him. The method was extended to the whole realm of natural history by Aristotle, but it is a matter for pride that a physician (and the physician's work bears close similarities with that of the natural historian) was its founder. Professor J. S. Haldane, in his Gifford lectures on "The Sciences and Philosophy" (1927-28), writes as follows:—

"Hippocrates treated the unconscious activities of life as natural processes. He claimed the right to interpret them in accordance with actual observation, regardless of superstition and of the intrusion of philosophical opinions not based on observation of them. In observing Nature just as she appears in the phenomena of life, and basing his opinions directly on the observations, he founded scientific medicine, and with it, as it seems to me, scientific biology. The co-ordinated activity manifested in the phenomena of life was regarded by Hippocrates as nothing more than a visible and tangible manifestation of Nature . . . His influence, through Aristotle and later Greek thinkers and observers, appears to have been a very great one. . . . It seems to me that the attitude of Hippocrates was, and is, the only attitude possible in scientific biology."

And yet how constantly has specialisation, in medicine and biology, led to a neglect of the "co-ordinating activity" in nature. How constantly to-day are we "side-tracked" into a contemplation of isolated functions and "parts" and a neglect of "wholes." Instead of man we study the parts of man, instead of disease aspects of disease.

Only a reading of the works themselves can convey a full idea of the remarkable powers of observation possessed by Hippocrates. All his senses, seeing, hearing, feeling, smelling, tasting must have been assiduously employed and his deliberations based on his sense-data were illuminated by the clear light of his reason. He has left us living thumb-nail sketches of many diseases, including mumps, the malarias, erysipelas (mentioning how the hair falls after erysipelas of the scalp), empyema, puerperal fever. He described a number of valuable signs both of a general and a local kind. The Hippocratic facies of impending death "with sharp nose and hollow eyes"; Hippocratic succussion in pyo-pneumothorax; "curved nails" or, as we should call it, "clubbed fingers" in empyema; splenic enlargement in malaria; Cheyne-Stokes breathing, "respirations rare and large with long intervals," to use his own words; tetanus after wounds—are all depicted in his records. With no means at his disposal for minute analysis he yet gave the most careful attention to the naked-eye characters of the excreta and of discharges.

In "Precepts" he advises that "one must . . . occupy oneself with facts persistently if one is to acquire that ready and infallible habit which we call 'the art of medicine.' For so to do will bestow a very great advantage upon sick folk and medical practitioners. Do not hesitate to inquire of laymen, if thereby there seems likely to result any improvement in treatment."

The most scientifically trained among us are still too easily tempted to toy with hypotheses instead of occupying themselves with facts. The practitioner remains unduly reluctant to accept help or suggestions from the layman. In "Law," he states "there are in fact two things, science and opinion; the former begets knowledge, the latter ignorance." In medicine, swayed by the intricacy of our problems, we are still sadly prone to guesses and "opinions" which warp the truth-seeking spirit. In "Ancient Medicine" and other works we find references to the constitutional factor, and in "Airs, Waters, Places" to the environmental factors in disease.

Prognosis.

Hippocrates attached a very particular importance to prognosis.

"I hold," he said, "that it is an excellent thing for the physician to practise forecasting. For if he discover and declare unaided by the side of his patients the present, the past and the future, and fill in the gaps in the account given by the sick, he will be the more believed to understand the cases, so that men will confidently entrust themselves to him for treatment. Furthermore, he will carry out the treatment best if he know beforehand from the present symptoms what will take place later."

Much unnecessary and unwise treatment, both medical and surgical, might be avoided even now if physicians and surgeons, less wedded to medicines, injections and techniques, and less susceptible to the impulse "to do something" in anxious situations, schooled themselves better in that knowledge of the natural course and eventualities of disease upon which all sound prognosis and treatment depend.

Aphorisms.

His "Aphorisms," many of them beautifully brief and to the point, are clearly the crystallised fruits of repeated observation and accumulated experience. The following are selected examples:—

"Spontaneous weariness indicates disease."

"In every disease it is a good sign when the patient's intellect is sound and he enjoys his food. The opposite is a bad sign."

"Pains and fevers occur when pus is forming rather than when it has been formed."

"A convulsion supervening upon a wound is deadly."

"Consumption occurs chiefly between the ages of eighteen and thirty-five."

"In acute diseases chill of the extremities is a bad sign."

In describing his bedside method and the things particularly to be observed there Hippocrates wrote as follows:—

"With regard to diseases, the circumstances from which we form a judgment of them are, by attending to the general nature of all, and the peculiar nature of each individual—to the disease, the patient and the applications—to the person who applies them, as that makes a difference for better or worse—to the whole constitution of the season, and particularly to the state of the heavens and the nature of each country; to the patient's habits, regimen and pursuits, to his conversion, manners, taciturnity, thoughts, sleep, or absence of sleep, and sometimes his dreams, what and when they occur; to his picking and scratching; to his tears; to the alvine discharges, urine, sputa and vomitings, and to the changes of diseases from one to another; to the deposits whether of a deadly or critical character; to the sweat, coldness, rigor, cough,

sneezing, hiccough, respiration, eructation, flatulence, whether passed silently or with a noise; to hæmorrhage and hæmorrhoids; from these and their consequences we must form our judgments."

Could we desire a more concise exhortation to attentive history-taking and clinical observation?

His philosophy with regard to disease and its origins is portrayed in the beautiful fragment entitled "The Sacred Disease," the name given to epilepsy, a disorder considered for centuries after Hippocrates to be an evidence of demonic possession:—

"I am about," he says, "to discuss the disease called 'sacred.' It is not, in my opinion, any more divine or more sacred than other diseases, but has a natural cause, and its supposed divine origin is due to men's inexperience, and to their wonder at its peculiar character." And again: "It has the same nature as other diseases, and the cause that gives rise to individual diseases. It is also curable, no less than other illnesses, unless by long lapse of time it be so ingrained as to be more powerful than the remedies that are applied. Its origin, like that of other diseases, lies in heredity."

In the same work he discusses the brain as the seat of consciousness and the emotions, a conception quite unfamiliar at that period when the heart and the diaphragm were commonly held to be the seat of the soul.

Observation and Record.

The importance of accurately observing and recording facts; of studying the whole event and all attendant circumstances; of viewing the phenomena of disease as natural phenomena and not as due to malign agencies or, as we should say, "abnormalities"; these, in brief, are the main lessons of the Hippocratic creed. To-day, as then, the physician if he would be a good healer must first be a good natural historian. The scientific ideal in medicine does not of necessity demand intensive abstract study of minutiæ, prolonged specialistic inquiry, or training or discovery by experiment alone. Rather does it require insistence on truth, correction of error, an understanding of the methods whereby truth is ascertained, an ability to sift evidence, and an appreciation of "wholes" and of those co-ordinating activities which determine the nature of things, and without some understanding of which our study of "parts" may become an enfeebling or confusing rather than an enlightening process. Properly used and weighed bedside experience can point the way to the goal of biological truth as surely as the departmental experience of the laboratory.

The Therapeutic Ideal

Among the critics of Hippocrates, and even this great man has had a few detractors, there have been those who objected that he was so intent upon observing disease that he neglected his patients. Through his influence, they would aver, other physicians in other ages have been guilty of scientific callousness. In hospital work the temptation to be interested in man's pathology rather than in man himself is one which some find difficult to resist, but that is to be traced rather to a narrow curiosity than to callousness, and it must be rare indeed for it to lead to neglect. I have found nothing in my own reading of the Hippocratic collection to justify the criticism as directed against its author. Recognising disease processes in the body as a contest between the body tissues and other natural agencies, and aware of the spontaneous tendency to recovery in the great majority of diseases and the great majority of patients, he concluded that recovery from disease, just like disease itself or death from disease, was a natural phenomenon. "Nature," he or one of his followers said, "is the physician of diseases." Sydenham expressed himself more strongly when he declared that "To imagine Nature incapable to cure diseases is blasphemy; because that would be imputing imperfection to the Deity, who has made a great provision for the preservation of animal life." With our more intimate understanding of pathology we continue to support this doctrine. We continually relieve suffering by surgery, psychotherapy, and the judicious employment of diet and drugs, but, if we except the knife in certain types of injury and local disease, a few specific chemicals in protozoal diseases, the substitution therapies, and one or two life-saving antitoxic sera, with all of which we lend a dramatic assistance to nature, we must confess that we are to this day powerless in the strict sense to cure disease.

We have ample evidence that Hippocrates did not withhold, any more than we do, the assistance which physician and nurse may give to patients to enable them the better and the more speedily and comfortably to combat their maladies.

In surgery he insisted on cleanliness, using wine for washing wounds and urging that dryness should be secured in lacerated wounds; he instructed the surgeon to keep his nails short; he trephined for certain head injuries; he taught methods of reducing dislocations which we still employ; he recognised the therapeutic value of rest, and of hot and cold applications, and of baths, and the inadvisability of prescribing alcohol in head injuries. He was an advocate of barley water in fevers and used hydromel and oxymel, giving indications for each. He was a good psychologist, as indeed every successful physician must be. He speaks of the necessity of performing actions in the sick-room "calmly and adroitly," of giving orders "with cheerfulness and serenity"; but sometimes of "reproving sharply and emphatically." He advises keeping "a watch on the faults of the patients, which often makes them lie about the taking of things prescribed." "One must not," he says, "be anxious about fixing a fee. For I consider such a worry to be harmful to a troubled patient, particularly if the disease be acute. . . . For, in heaven's name, who that is a brotherly physician practises with such hardness of heart as not at the beginning to conduct a preliminary examination of every illness and prescribe what will help towards a cure, to heal the patient and not to overlook the reward, to say nothing of the desire that makes a man ready to learn?"

But perhaps the greatest therapeutic principle of all those which the Coan school has left to us is this: "As to diseases, make a habit of two things—to help, or at least to do no harm." As experience accumulates many of us must reluctantly confess that we see a vast deal of harm in practice due to injudicious interference. The policy of "letting well alone" in an improving case, even though improvement be slight, is a sound one but often ignored. The urge "to do something" in the acute or anxious case, even though it be not clear what that "something" should be, often prevails, when it would have been far wiser to wait and watch. Against the countless triumphs of surgery we have to set a long list of harmful interferences, especially in the abdominal field. The more potent a treatment is for good, the more potent also is it

for ill when misapplied. It is important to avoid timidity in our actions or a permanent policy of *laissez-faire*, but in being bold we should never become oblivious to the wise restraint of that injunction to "do no harm."

The Ethical Ideal

If there be present need for a revision, in the light of early teaching, of our ideas relating to the science and art of medicine, the occasion is, perhaps, still more ripe for a revision of ethical ideas. The war, as though in some small compensation for vast evil, brought benefits to medical and surgical knowledge, but its interruptions have in some degree been damaging to the old ethical standards of the profession. The former friendly relationship between doctor and doctor and patient and doctor, although they are still among the happier rewards of practice, have been subjected to various strains and, if there has been more freedom of thought and action, this has sometimes been counterbalanced by a loss of mutual trust and understanding.

I hear occasional complaints from older men that appropriation of patients by newcomers, criticisms of colleagues to patients and by patients, and uncorrected inconstancy among patients manifest in their flittings after specialist and unorthodox opinion, are much more common than in the old days. Cloaked advertisement, "stunf" treatments, and commercial methods have crept in insidiously in some quarters. Jealousies are rife. These evils are not new, but if there be any truth in the impression that they are increasing it is time that a profession which has hitherto maintained its standards at a very high level should immediately seek to set its house in order.

The rules were all laid down between two and three thousand years ago in the Oath, the Precepts, the Decorum, Physician and Law of the Hippocratic Collection.

In the Oath the physician swears among other things that: "Whatsoever I shall see or hear in the course of my profession, as well as outside my profession in my intercourse with men, if it be what should not be published abroad, I will never divulge, holding such things to be holy secrets." We cannot too often remind ourselves of the importance of professional secrecy or too closely guard our tongues from gossip.

Of the physician it is written that "The prudent man must also be careful of certain moral considerations—not only to be silent but also of a great regularity of life, since thereby his reputation will be greatly enhanced; he must be a gentleman in character, and being this he must be grave and kind to all."

"Physicians who meet in consultation must never quarrel, or jeer at one another. For I will assert upon oath, a physician's reasoning should never be jealous of another. To do so will be a sign of weakness." "You must also avoid adopting, in order to gain a patient, luxurious headgear and elaborate perfume. For excess of strangeness will win you ill-repute. . . . Yet I do not forbid you trying to please, for it is not unworthy of a physician's dignity." "A physician does not violate etiquette even if, being in difficulties on occasion over a patient and in the dark through inexperience, he should urge the calling in of others, in order to learn by consultation the truth about the case."

Consideration for the patient's pocket could scarcely be more nicely prescribed than in the following words: "I urge you not to be too unkind, but to consider carefully your patient's super-abundance or means. Sometimes give your services for nothing, calling to mind a previous benefaction or present satisfaction. And if there be an opportunity of serving one who is a stranger in financial straits, give full assistance to all such. For where there is love of man, there is also love of the art."

Here then we have, in these few quotations, sane and kindly recommendations for the physician's life, requiring of him a high morality, devotion to professional secrecy, avoidance of jealousy, willingness to confer with colleagues, avoidance of undue "show," and kindness to patients in the matter of fees. We need no other code.

Disciples of the Hippocratic Method

It might seem invidious to select from the pages of medical history men who have exemplified the Hippocratic type above their fellows. In every era, although there were dark gaps in the Middle Ages, and in every civilised country there have been physicians, eminent or obscure, who have faithfully pursued the old ideal. Sydenham well earned his title of "the English Hippocrates" in his professional life and in his endeavour to give a true description of the natural history of diseases. William Heberden, who gave the first account of angina pectoris in all its clinical details, and insisted on careful note-taking, was of similar breed. Trousseau and Osler, great teachers and practitioners, were of the same genus. But countless others among physicians and surgeons and among general practitioners of the lovable, cultured type of Dr. John Brown—the author of "Rab, and his Friends"—have fulfilled the Hippocratic behest. Among our own colleagues and teachers and family doctors we could name not a few besides. If we look beyond the anecdotes which grew around John Abernethy and have given him a reputation for uncouthness we must agree to include him in the same school. Another great surgeon, Syme of Edinburgh, accounted Abernethy the finest surgical mind after John Hunter and Percival Pott, but he was a physician too, a physiologist, and even a psychologist, for he wrote a well-reasoned little essay on the Mind. He saw things whole and based his views and treatment on sound observation and common sense. His generosity to poor patients is proverbial and can seldom have been surpassed.

Bibliography

The genuine works of Hippocrates. Francis Adams. The Sydenham Society, London, 1849. Hippocrates. The Local Classical Library. W. A. S. Jones and E. T. Whittington.

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PERSONAL

Appointments.—Mr. A. Cruickshank, M.R.C.V.S., of Helensburgh, and Mr. D. V. Sinclair, M.R.C.V.S., of Harrogate (lately of the "Dick" College Staff), have been appointed Assistant Veterinary Officers to the West Riding County Council, and Mr. W. A. Milligan, M.R.C.V.S., D.V.S.M., of the West Riding Staff, has accepted an appointment with the Dorsetshire County Council.

Birth.—Steele—On December 31st, 1934, to Helen, wife of Alastair P. Steele, Hillcrest, Kirkmahoe, Dumfriesshire, a son.

On Leave.—The list of Colonial Service Officers arriving on leave from the Colonies, Protectorates, etc., during the month of December, 1934, includes the names of Mr. Hugh Hay-Barclay (Veterinary Officer, Kenya) and Mr. W. A. Allan (Veterinary Officer, Uganda).

Will.—Captain Louis Mitchell, M.R.C.V.S., of St. Leonards-on-Sea, retired veterinary surgeon, who died on October 20th, aged 70, left estate of the gross value of £13,237, with net personalty £13,049. He left:—

£100 to the Victoria Veterinary Benevolent Fund.

. . . . .

Photographs Required.—Dr. H. H. Curson, F.R.C.V.S., who is compiling a History of the Army Veterinary Services in South Africa, will be very grateful to any reader of *The Veterinary Record* who can supply, on loan, photographs of the following, formerly of the Army Veterinary Department: John Percivall, F. Cherry, W. Stockley, J. Wilkinson, J. C. Berne and R. T. Frost. Dr. Curson's address is: P.O. Onderstepoort, Pretoria, South Africa.

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R.C.V.S. OBITUARY

Western, Walter, Bracknell, Berks. Graduated London, April 10th, 1888. Died January 2nd, 1935.

. . . . .

Townson.—On Saturday, December 29th, 1934, at the residence of her daughter at Bulford, Wilts., Mary Ann, widow of the late Major W. W. Townson, M.R.C.V.S., and beloved mother of W. K. Townson, M.R.C.V.S., Peterborough and H. W. Townson, M.R.C.V.S., St. Austell, Cornwall.

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ARMY VETERINARY SERVICE

London Gazette—War Office—Regular Army

Jan. 1st (half-yearly brevet) Maj. E. G. Turner, D.S.O., is promoted Bt. Lt.-Col. (Jan. 1st).

Territorial Army

The following promotions are made with effect from Jan. 1st:—

To be Lt.-Col.—Maj. T. S. Green, T.D.

To be Bt. Maj.—Capt. A. V. Franklin.

Movements of Officers

Major P. Howard and Captain I. D. Macrae arrived in this country on January 1st. They are at present on two months' leave *ex* India, at the end of which they will revert to the Home establishment.

Major H. C. Stewart arrived in this country on January 1st on leave *ex* India pending retirement.

Major G. V. Golding was posted from the Northern Command to the Eastern Command on January 2nd, and is now stationed in London.

Lieut. I. H. Chalmers was posted from the Aldershot Command to the Eastern Command on January 8th, and is now doing duty at Woolwich.

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NATIONAL HORSE ASSOCIATION

At a recently-held Council Meeting of the National Horse Association, it was resolved to invite Colonel Sir Arthur Erskine, C.V.O., D.S.O., to be President-elect (*i.e.*, President in 1936). The President for 1955 will be Mr. James Forshaw.

Bravery Award.—The Champion gold medal and merit certificate were awarded to Mr. Thomas Taylor, of Margate, for bravery in rescuing a horse tied up in a burning stable.

Riding on Grass Verges.—The question of banning the horse rider on the Great West Road by the Middlesex County Council was discussed, and it was reported that Clause 11 of the Middlesex County Council Act, 1914, lays down that while the Council may lay out ornamental verges, their powers shall not be exercised nor shall any trees or shrubs so planted be continued so as to hinder the reasonable use of the improvements by the public or any persons entitled to use the same. Counsel's opinion had been taken in the matter, and it was to the effect that this could only be decided by the Court if the issue were legislated; it was further pointed out that there is no penalty clause in the Act, and therefore in the event of a rider being prosecuted for riding on the margins, the Middlesex County Council would have to claim for damage.

It was decided to make further representations to the Ministry of Transport on the whole question of the use of grass verges, in view of the recent reply of the Minister of Transport in the House of Commons on December 8th, 1934, *viz.*:—

> Lieut.-Colonel T. C. R. Moore asked the Minister of Transport whether, with a view to furthering the campaign for reducing road accidents, he will take fresh steps to ensure that highway authorities shall do their utmost to carry out the terms of Section 58 of the Road Traffic Act, 1930, which declares that it is their duty to provide, wherever necessary or desirable, proper footpaths for pedestrians and margins for riders.
>
> Mr. Hore Belisha: The provision of footways or margins or both in all cases where they are practicable and desirable is now a condition of grants from the Road Fund. Similarly all highway authorities have been warned that grants will not be made towards road widening operations by which pedestrians are deprived of footways or verges.
>
> Lieut.-Colonel Moore: May I call the Minister's attention to the fact that he has not included in his answer any reference to horses; and may I ask him whether he considers that horses should be excluded from this beneficent life-saving provision?
>
> Mr. Hore Belisha: I was not intending to exclude horses. I used the word "verge," which would include them.

Municipal Bills.—It was pointed out that several points in connection with Municipal Bills introduced by such towns as Sunderland, Newcastle and Birmingham contained clauses which might prove detrimental to the interests of horse riders and owners, and these points were very carefully discussed.

Publications.—It was reported that the latest 6d. booklet dealing with the Selection of the Commercial Horse, and giving short articles on the various Heavy Horse breeds was passed for press, and would be available on January 1st, 1935. The Horse Owners' Reference Book for 1935 would contain a full list of dates of fixtures in which horses and ponies could participate, together with statistics and records of interest to the horse owner. The book would be issued early in February. It was decided to prepare a leaflet for horse drivers on the correct fitting and care of harness and saddlery.

Approved Riding Schools.—Under the newly-inaugurated system of approved riding schools after inspection, and the issue of the Association's badge, the Council approved of a number, while the Secretary reported that 240 riding schools had also lodged details of their establishments, so that their names could be included in the Horse Owners' Reference Book for 1935.

Country Show Awards.—During the past show season, the Association has awarded 38 silver

medals for the best child's pony at associated shows, 11 silver medals in shoeing competitions for the best-prepared foot, and 6 bronze medals to the owner, and 6 silver medals to the farrier of the best-shod horse in the heavy horse classes.

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THE COMMERCIAL HORSE

The National Horse Association of Great Britain, 12, Hanover Square, London, have issued (post 7d.) Part III of the "Horse Owner's Guide," in which, under the above sub-heading, are included the articles reproduced in various issues of *The Veterinary Record* during 1934, dealing with the selection of the commercial horse, by such experts as Messrs. R. C. Irving, J. W. McIntosh, A. W. Noel Pillers, W. K. Townson, C. Cunningham, etc.

An interesting and practical article on "The Shoeing of the Commercial Horse" is also contributed by Mr. E. E. Beaumont—Lecturer to the L.C.C. Farriery Classes.

The table (reproduced in this booklet) of comparative transport costings, supplied by a leading London store, on an 8-hour daily computation, with 313 working days a year, indicates that the cost of a single-horsed van is 18s. 10d.; of a pair-horsed van 24s. 2d. while the most of a 25 cwt. van is 24s. 1½d. and a 3-ton lorry 27s. 8½d.

Lastly, a description of each of the heavy horse breeds of this country is given—these articles also having been originally written for and published in the *Record*—*viz.*, the Shire Horse, by Mr. James Forshaw; the Clydesdale Horse, by Professor J. R. McCall; the Suffolk Horse, by Mr. A. T. Pratt, and the Percheron Horse, by Mr. J. Stanley Chivers, while the heavy types of pony breeds are covered by Mr. R. B. Charlton.

The booklet, which is admirably produced, on good paper, is illustrated by a number of excellent photographs, and is one which many of our readers will wish to possess.

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Errata.—Mr. Gwilym O. Davies writes to point out that the descriptions of Fig. 2 and Fig. 3 in his article "Actinomycotic mastitis" published in the Clinical section of our last issue, were interchanged, while the magnifications were increased from 1½ to 2 times as the result of the enlargement of the illustrations.

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"ZOOS IN THEIR EDUCATIONAL ASPECT"

The above was the title of an address delivered on January 2nd, at a meeting arranged by the University of London Animal Welfare Society in the Great Hall of University College, by Professor Julian Huxley, Secretary-Designate of the Zoological Society. The occasion was the Twenty-third Conference of Educational Associations, and Sir Frederick T. G. Hobday, Principal of the Royal Veterinary College and President of the Society, occupied the chair.

In the course of his address, Professor Huxley said that it gave him great pleasure to address a meeting of the University of London Animal Welfare Society because that Society sought to deal with the subject of animal welfare on the basis of exact knowledge and scientific enquiry. By steadily pursuing this policy it had gained a high place in public esteem, and the importance of its work was rapidly coming to be recognised.

That audience must, first, remember that he was not yet at the Zoo, though much interested in its educational possibilities. He wanted to get ideas from others. That was a discussion and an appeal, not a statement of policy. The pros and cons of keeping animals in captivity did not enter into the discussion. The Zoo was, for them, a fact, and their problem was how it could be made more educative.

One way was by familiarising people with different kinds of animals, and so arousing their interest and sympathy for animals in general. They were a little prone in confine their sympathies to familiar domestic animals such as the dog, the cat and the horse, but wild fur-bearing animals suffered as much as dogs if trapped cruelly, and many big game animals like antelopes, hippos, etc., were as beautiful or interesting as horses.

A properly run Zoo could help people to see how to keep animals in the right way. Sir Peter Chalmers Mitchell, during his thirty years at the Zoo, had effected numerous striking improvements in the condition of his charges. A great deal of care and scientific knowledge was needed to feed and house them properly. There was a huge number of people in this country who kept pets; many did not realise the unconscious cruelty they were inflicting when they kept them in bad conditions. The Zoo could be highly educative in this respect. The opening of the Aquarium had been very valuable in this way, as regarded water animals. A further great step had been taken at Whipsnade, where animals lived in much more natural conditions.

All this helped to create greater and more intelligent interest in natural history in general, and in the long run assisted in educating people towards making demands for bird preservation, nature sanctuaries, national parks, etc.

Coming now to the Zoo's educational aspects in the narrower sense, already special facilities for the Gardens are granted to schools accompanied by teachers, and for entry to the Aquarium for biological classes.

About 20 years ago there was a scheme of lectures at the Zoo for L.C.C. teachers designed to ensure that they could later conduct their school parties more intelligently and be better prepared to set questions afterwards. Probably the time had now come when that could be profitably repeated. There was no reason why teachers outside the London area should not also be included in a lecture scheme if administrative difficulties were not too great. Also, secondary schools should be brought in. A suggestion might be made that there should be prizes for the best set of essays on the Zoo—perhaps a shield for the school and/or a free trip and entertainment at the Zoo.

Apart from the schools, there were other methods of approach. Lectures, such as those given at the British Museum, could be arranged for ordinary visitors, dealing with such subjects as classification, geography of animals, evolution as illustrated by the exhibits, interesting habits, etc. The B.B.C. had recently instituted an hour from the "Zoo Man," which he understood was very popular and stimulated much interest. A cinema of the news theatre type for showing biological and nature films in the Zoo would be very educative. There was also the fact that many nature films were now largely wasted through being swamped with other items, or put away into cold storage after a short showing. A definite centre for such films would be very useful. The practical trouble here was the question of space at Regent's Park.

As other possibilities he might suggest a Museum on the lines of the Children's Gallery

at the Science Museum, a popular journal aimed largely at the schools, stressing the care of animals, interesting facts and habits of animals in the Zoo, the behaviour of animals in their own habitats, the need of preservation of fauna in nature (sanctuaries), etc.

To sum up, the chief ways in which the Zoo could be of educational value were:—

(*a*) in arousing interest in and sympathy with animals;

(*b*) in spreading biological knowledge;

(*c*) in encouraging kindness to and proper treatment of animals, wild and in captivity;

(*d*) the linking up of interest in local natural history and preservation of nature.

As regards methods for realising these aims, the proper exhibition of animals came first; then there were lectures to teachers and others; facilities for schools; and various agencies of general publicity such as the wireless, cinema, museums, journals, etc.

He would emphasise the fact that those remarks were very tentative, and that their main purpose was to elicit further suggestions from others.

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"MODERN THERAPY"—No. 1.—DIGILANID

We have received from Sandoz Products a descriptive pamphlet concerning the preparation Digilanid. This paper is a good short review of the chemistry, physiology, therapeutics and clinical uses of digilanid, a crystalline preparation containing the active principles of *Digitalis lanata*. Digilanid has been shown to consist of three glucosides, each of which is active. The following claims are made for this preparation, references to scientific papers being quoted to support the claims:—

Digilanid is stable: infusion of digitalis is not. It is tolerated even in cases with gastric complications. Its action is rapid by the mouth.

All preparations of digilanid are constant in composition and therefore in physiological action.

The preparation is more rapidly acting and rather less cumulative than crystalline digitalin.

Its clinical indications are discussed, certain experimental results in Germany being described. It is claimed that digilanid has all the indications of digitalis: acute cardiac insufficiency, pulmonary œdema, myocardial weakness, disturbances of conduction and excitability. It is indicated in acute infections with a failing heart. It is a cardiac tonic and a diuretic. It is put up in three forms and dosage and method of administration are discussed.

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RUBBER AND THE PROFESSION

A correspondent, writing concerning our recent reference to rubber and its application to agriculture, including veterinary science, and further, to our statement that the name of Dunlop, who was a veterinary surgeon, was intimately associated with the application of rubber in commerce, says: "Curiously enough, there is a further connection between the profession and rubber inasmuch as the head Consulting Chemist to the Rubber Association, who has been intimately connected with its further applications to commerce during the last 20 years, is Dr. H. P. Stevens, M.A., PH.D., F.I.C., who is the son of the late W. H. Stevens, M.R.C.V.S."

Correspondence

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

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"TESTING FOR UNCONSCIOUSNESS AFTER AN ELECTRIC SHOCK"

To the Editor of the Veterinary Record

Sir,—In the first stage of, or during recovery from anæsthesia one is able to hear spoken words but unable to move; one may feel a tooth being pulled out, as if a boot were being pulled off the foot, without pain. Similarly with too weak a current from an electro-stunning apparatus there may be, as Leduc experienced, and Hertz observed, loss of ability to move without loss of power to feel.

There is no reason to think that the full current does not produce full anæsthesia. The behaviour of pigs allowed to recover after being stunned by the electro-lethaler is exactly the same as in recovery from an anæsthetic.

I am,
Yours faithfully,
Leonard Hill.

Nicholls Wood,
Chalfont St. Peter,
Bucks.

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CLINICAL SIGNS IN INTRADERMAL REACTORS

To the Editor of The Veterinary Record

Sir,—In reading over, in *The Veterinary Record*, the discussion on "The Eradication of Tuberculosis," presented to the Public Health Section of Congress, N.V.M.A., I was surprised when I read a statement by Mr. W. Tweed of Sheffield: "The intradermal test did not raise the temperature or put cows off their milk."

I personally have commonly found that during the test the positive reactors have exhibited clinical signs of being "off colour" and that the milk yield had been diminished, the cows losing their "bloom." On several occasions I have been able to satisfy myself that certain cows were reactors (at later testings showing good reactions), although the skin reactions might have been considered to be doubtful—the clinical signs being in evidence.

It is my experience that the farmers themselves know 50 per cent. of the reactors before my second visit at the 48th hour, by the clinical condition of the cow.

I know Norwegian veterinary surgeons who always take into consideration the temperature after the injection as well as clinical signs, together with the amount of milk secreted during the intradermal test as compared with the cow's average yield (when possible).

Oscar Stinson.

Charnwood,
Appleby,
Westmorland.
January 7th, 1935.

The Editor acknowledges, with thanks, the receipt of the following:—

Report of a meeting of the Royal Counties Division, from Mr. H. Bell, Hon. Secretary.

Communications from Mr. W. E. Blackwell (Towcester), and Mr. R. H. Smythe (Camborne).